

Application No.: 10/502,170  
Amendment Dated: November 7, 2006  
Reply to Office Action of: August 7, 2006

MAT-8563US

**Remarks/Arguments:**

The present invention relates to a method of manufacturing a circuit board with circuit patterns of surface layers of a double-sided circuit board or multiple layers of multi-layer circuit boards connected with conductive relation.

Claims 1-12 are pending in the application. Claims 1, 2 and 5-12 stand rejected under 35 U.S.C. §103(a) as obvious over Shizuo et al. (Japanese Pat No. 09-199829). It is respectfully submitted, however, that the amended claims submitted here are patentable over Shizuo for the reasons set forth below.

Shizuo teaches a method of manufacturing printed wiring board wherein the thermosetting resin is heated and pressurized at a first temperature below that which the resin hardens. A punching step creates via holes and fills these holes with a conductive paste. The prepreg sheet is then heated and pressurized at a temperature higher than the first temperature.

Applicants' invention, as recited by claim 1, includes a feature which is neither disclosed nor suggested by the art of the record, namely:

... heating ... at a first heating temperature set to a temperature in accordance with the softening temperature of the resin while pressurizing... (emphasis added)

Applicants' invention claims heating at a temperature set in accordance with the softening temperature of the resin. This feature is found in the originally filed application at page 9, lines 14-15. No new matter has been added.

Applicants' invention is different from Shizuo because Shizuo does not disclose a first heating temperature set in accordance with the softening temperature of the resin. Instead, Shizuo discloses a first temperature which is below that which the resin hardens. The Shizuo temperature is defined by a sub-hardening temperature, which differs from applicant's claimed softening temperature. A softening temperature is a lower and distinct temperature than a temperature which is based upon the

hardening of a resin. Applicants' invention claims a temperature which is in accordance with the softening temperature point of the resin, not the hardening temperature point.

Shizuo does not disclose a first temperature set in accordance with the softening temperature of the resin. Rather, in the translated claims and abstract, Shizuo discloses that his temperature is set to stop the advance of hardening to the point where etching is possible. Specifically, Shizuo discloses,

...Said pressurization and heating are stopped by the phase in which hardening of said thermosetting resin advanced to extent in which said etching is possible before advance of hardening of said thermosetting resin was completed...

This first temperature in Shizuo allows hardening so long as etching is still possible. In contrast, Applicants' invention discloses a first temperature set in accordance with the softening temperature of the resin.

Applicants' invention is advantageous because by setting a first temperature in accordance with the softening temperature of the resin while pressurizing, Applicants' invention prevents the problem of the sideways flow of the conductive resin, as shown in Fig. 6(b). It is because Applicants' include the feature of setting the first temperature in accordance with the softening temperature of the resin, that the following advantage is achieved.

Accordingly, for the reasons set forth above, claim 1 is patentable over the prior art.

Claims 2, 5-12 include all the features of claim 1 from which they depend. Thus, claims 2, 5-12 are also patentable over the art of record for the reasons set forth above.

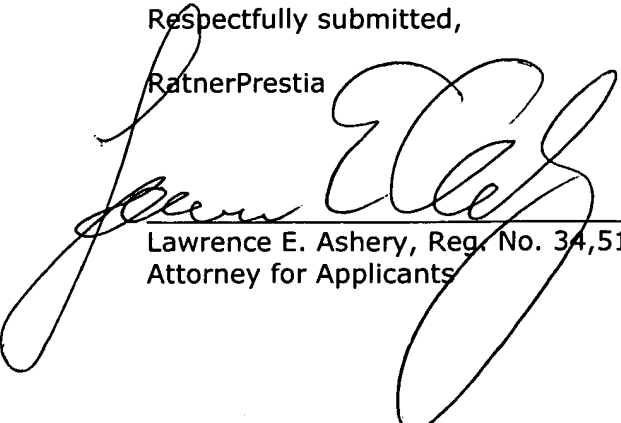
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In view of the amendments and arguments set forth above, the above identified application is in condition for allowance which action is respectfully requested.

Respectfully submitted,

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Dated: November 7, 2006

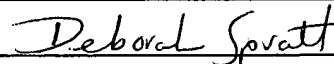
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